**I. Choose the correct answer: 10 X ½ = 5 M**

1. Kelvin’s double bridge is used to measure …………Resistances [ ]

a) Low b) Medium c) High d) None

2. ……….Bridge is used to measure Frequency of a circuit. [ ]

a) Kelvin’s double b) Owen’s c) Wien’s d) none

3. Max-well Bridge is used to measure …………………. [ ]

a) Resistance b) Capacitance c) Inductance d) All

4. Which of the following is high resistance [ ]

a) Series field Winding b) Shunt field winding c) insulation resistance of cable d) None

5. Which of the following is Low resistance [ ]

a) Series field Winding b) Shunt field winding c) both d) None

6. High Resistance Range is [ ]

a) 100 ohm b) 300 to 1000 ohm c) above 0.1M ohm d) none

7. What are the Essentials of Indicating Instruments [ ]

a) Deflecting Torque b) Controlling Torque c) Damping Torque d) All the above

1. 8. I 8. In a spring controlled iron instruments, the scale is [ ]

a) Uniform b)Non Uniform c) both d) Cramped

9. Which of the following damping is used in PMMC instrument [ ]

a) Air friction Damping b)Eddy current Damping **c)** Fluid friction Damping d) None

10. Ammeter range can be extended by using [ ]

a) Shunt b) Multiplier c) both d) none

**II. State whether True or False: 5 X ½ = 2 ½ M**

11) Schering Bridge is Suitable for the measurement of Inductance [ ]

12) For MI and PMMC instruments the scale is uniform [ ]

13) Whetstone bridge is used to measure high resistance. [ ]

14) Moving Iron type instruments Used for Both AC & DC [ ]

15) In an Instrument Controlling Torque TC =Kθ [ ]

**III. Fill up the Blanks 5 X ½ = 2 ½ M**

16) When the phase difference between standard and unknown signal, CRO screen image is………….

17) To extend the range of voltmeter what is the Multiplier value …………..

18) Medium resistance in the range between…….. And …………..

19) Write the phase angle balance condition in AC Bridge………………..

20) When bridge is in balance condition current through Detector is ……………...

**Answer any THREE of the following**

1) (a) why PMMC instruments are most widely used instruments and Discus their advantages

1. [5M] [CO2] [BL2]

b) An A.C bridge is working at 1000Hz. Arm AB is 0.2 μF pure capacitance, Arm BC is a 500 Ω pure

Resistance, Arm CD contains an unknown Impedance and Arm DA has an a resistance of 300 Ω in

Parallel with a 0.1 μF capacitance. Find the R and C or L constants of arm CD, consider it is a series

Circuit? [5M] [CO2] [BL2]

2. Explain about Wheatstone bridge when it is [5M] [CO1] [BL1]

a)Balance Condition .b) Un Balance Condition c) Slightly Balance Condition

(b) Explain about CRT with neat diagram. [5M] [CO1] [BL1]

3. a) Derive the Torque Equation for Electro Dynamo meter [5M] [CO2] [BL3]

b) Explain any one of the bridge to measure capacitance value [5M] [CO1] [BL1]

4. Explain about Anderson’s Bridge with neat Diagram [10M] [CO1] [BL1]

5.(a) Explain about Kelvin’s Double Bridge with neat Diagram [5M] [CO1] [BL1]

(b) Design an Argon shunt to provide an ammeter with the current ranges 2 A, 3A and 4 A.

a basic meter resistance is 50 Ω and full scale deflection current is 1 mA. [5M] [CO2] [BL3]